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10/759,760

01/16/2004

Shoji Mafune

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7590

11/02/2005

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EXAMINER

AU, SCOTT D

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                               |  |
|------------------------------|-------------------------------|-------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/759,760 | Applicant(s)<br>MAFUNE ET AL. |  |
|                              | Examiner<br>Scott Au          | Art Unit<br>2635              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 7 is/are rejected.
- 7) ☒ Claim(s) 2,4-6 and 8-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/16/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01162004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

The application of Mafune et al. for a "Detector and lock controller using same" filed January 16, 2004 has been examined.

Claims 1-10 are pending.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heide et al. (US# 6,946,949) in view of Suzuki et al. (US# 5,606,737), Kulha et al. (US# 5,973,611) and further in view of Watson, Jr. (US# 4,107,684).

Referring to claim 1, Heide et al. disclose a detector (20) (i.e. receiving and transmitting unit) for detecting a target object approaching and retreating, said detector (col. 1 lines 37-53 and col. 10 lines 57-65) comprising:  
an oscillator device (21) (i.e. oscillator) for generating a transmission wave;  
a transmission device (23) (i.e. transceiver) for transmitting said transmission wave into space as electromagnetic waves;

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a reception device (23) (i.e. transceiver) for receiving the transmission wave transmitted by said transmission device and reflected by said target object (col. 3 lines 1-46; see Figures 2-3);

a mixer (23) (i.e. a mixer) for mixing a reception signal received by said reception device and a branched signal branched by said branching device to output a mixed signal (col. 5 lines 1-34).

However, Heide et al. did not explicitly disclose a branching device for branching said transmission wave generated by said oscillator device; a judging device for switching on a detection output indicating said object approaching and retreating based on an increase and a decrease of said mixed signal outputted from said mixer; wherein a detection distance is set within  $1/4$  wavelength of frequency effective for the detection.

In the same field of endeavor of sensor device, Suzuki et al. disclose a branching device for branching said transmission wave generated by said oscillator device (col. 14 lines 14 lines 40-48) in order to separate the signals having different frequencies.

One ordinary skill in the art understands that a branching device for branching said transmission wave generated by said oscillator device of Suzuki et al. is desirable in the sensing device of Heide et al. because Heide et al. suggest the transmitting and receiving unit 20 is in the form of a frequency modulated-continuous wave (FM-CW) radar and comprises a tunable-frequency oscillator 21 (VCO) (col. 5 lines 1-8) and Suzuki et al. disclose a branching device for branching said transmission wave generated by said oscillator device (col. 14 lines 14 lines 40-48) in the sensor device of Heide et al. in order to separate the signals having different frequencies.

However, Heide et al. in view of Suzuki et al. did not explicitly disclose a judging device for switching on a detection output indicating said object approaching and retreating based on an increase and a decrease of said mixed signal outputted from said mixer; wherein a detection distance is set within  $1/4$  wavelength of frequency effective for the detection.

In the same field of endeavor of detection system, Kulha et al. disclose a judging device for switching on a detection output indicating said object approaching and it is obvious that within the sensor the circuitry retreating based on an increase and a decrease of said mixed signal outputted from said mixer (col. 3 lines 17-33).

One ordinary skill in the art understands that once the sensor 20 senses and detects of the approaching object, waking up the transmitter for transmitting signal to the FOB 14 of Kulha et al. is desirable in the security system of Heide et al. in view of Suzuki et al. because Heide et al. suggest the evaluating circuit (25, 271) for judging the received from the detecting signal (col. 5 lines 1-9) and Kulha et al suggest different zones and upon sensing an object with one of a plurality of the wake-up sensors 20, the microprocessor 16 transmits wake-up information and data, via transmitter 24 and antenna 26 to the fob transceiver 14. The transmitter 24 transmits the wake-up and data signals sequentially from different zones about the vehicle to determine the location of the fob transceiver 14 (col. 3 lines 17-30). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include the judging circuitry serving to switch on a detection output based

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on the outputted signals from said wave detection circuit parts to indicate that said target object is approaching of Kulha et al. in the security system of Heide et al. with the motivation for doing so would prevent theft from approaching the vehicle.

However, Heide et al. in view of Suzuki et al. and Kulha et al. did not explicitly disclose wherein a detection distance is set within  $1/4$  wavelength of frequency effective for the detection.

In the same field of endeavor of intrusion detection system, Watson, Jr. discloses wherein a detection distance is set within  $1/4$  wavelength of frequency effective for the detection (col. 2 line 61 to col. 3 line 2).

One ordinary skill in the art understands that a detection distance is set within  $1/4$  wavelength of frequency effective for the detection of Watson, Jr. is desirable in the detection system of Heide et al. in view of Suzuki et al. and Kulha et al. because Kulha et al. suggest the sensors 20 detect approaching objects within the zones 52 and the zone 52 have a diameters of about 1 to 2 feet (col. 4 lines 15-20). Watson, Jr. suggests in a steady state condition, the system establishes a frequency in which the distance from the transmit antenna 14 to the object 16 and back to the receive antenna 18 is a multiple of either the wave length or a quarter wave length of the frequency generated by the voltage controlled oscillator modulator 12. In this situation the phase difference between the transmit and receive signals is at a predetermined value and the control voltage output of the phase comparator is at a steady state level (col. 2 line 61 to col. 3 line 2).

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Referring to claim 3, Heide et al. in view of Suzuki et al., Kulha et al. and Watson, Jr. disclose the detector of claim 1, it is obvious that Kulha et al. disclose within the sensor 20 comprising a speed correcting device for changing said detection output based on the speed of change of said mixed signal outputted from said mixer.

Referring to claim 7, Heide et al. in view of Suzuki et al., Kulha et al. and Watson, Jr. disclose a lock controller comprising a detector according to claim 3, and Kulha et al. disclose a main apparatus which is provided to a structure with a lockable part having a handle and being adapted to open and close, wherein said main apparatus is adapted to send by wireless transmission a specified request signal to a portable device carried by said user, to receive an answer signal from said portable device in response to said request signal, and to cause said lockable part, if locked, to be unlocked after ascertaining that said received answer signal is a correct signal (col. 5 lines 35 to col. 6 line 18).

### *Claim Objections*

Claims 2,4-6 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claim 2, the following is a statement of reasons for the indication of

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allowable subject matter: the prior art fail to suggest limitations that wherein said oscillator device generates a non-sinusoidal wave with frequency less than 1/5 of frequency effective of the detection.

Referring to claim 5, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that further comprising a speed signal outputting device for outputting a speed signal indicative of a speed of said target object based on the speed of change of said mixed signal outputted from said mixer.

Referring to claims 4-6 and 8-10 are objected to based upon the dependent of the above claims 2 and 5.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okada et al. (US# 6,552,649) disclose a vehicle detecting system.

Shimomura et al. (US# 6,879,247) disclose a vehicle anti-theft device system.

Geber et al. (US# 6,700,475) disclose an electronic vehicle security system.

Baudard (US# 6,522,241) disclose the hand free access security system.

Any inquiry concerning this communication or earlier communications form the examiner should be directed to Scott Au whose telephone number is (571) 272-3063. The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached at (571) 272-3068. The fax phone numbers for the organization where this application or proceeding is assigned are (571)-272-1817.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

Scott Au

MICHAEL HORABIK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

